

REMARKS

Claims 1, 3, 5, 7, and 8 are amended. Claims 1-8 remain in the Application. Reconsideration of the pending claims is respectfully requested in view of the above amendment and the following remarks.

I. Claims Rejected Under 35 U.S.C. § 103(a)

A. Claims 1, 5 and 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Publication No. 2003/0063558 of Kim ("Kim") in view of U.S. Patent No. 6,628,673 issued to McFarland, et al. ("McFarland").

To establish a *prima facie* case of obviousness, the relied upon references must teach or suggest every limitation of the claim such that the invention as a whole would have been obvious at the time the invention was made to one skilled in the art.

Among other elements, amended Claim 1 recites:

“(a) receiving OFDM (orthogonal frequency division multiplexing) symbols from a plurality of mobile stations, canceling a symbol guard interval using a reference timing signal, and performing an FFT (fast Fourier transform) process on the OFDM symbols, the reference timing signal being established based on an estimation of relative delay times among the mobile stations;

(b) dividing the OFDM symbols that have undergone FFT processing into subchannel groups of the mobile stations;

(c) restoring phases of the OFDM symbols divided into subchannel groups based on the estimation of the relative delay times among the mobile stations; and

(d) performing channel estimation and equalization on the restored OFDM symbols for each mobile station to thereby perform a demodulation process” (emphasis added).

Applicants submit that the cited references do not teach or suggest that both guard interval removal and phase restoration are based on an estimation of relative delay times among the mobile stations.

Kim discloses a guard interval remover 520 that removes the guard time from digital signals (paragraph 51, lines 8-9) and a phase compensator 540 that corrects channel distortion (paragraph 52, lines 6-8). However, Kim does not disclose that guard interval remover 520 and phase compensator 540 are both based an estimation of relative delay times among the mobile stations. Kim does not even mention calculating relative delay times among the mobile stations. Rather, the technique disclosed by Kim uses an estimation of frequency offset 710 (FIG. 5). Thus, Kim does not disclose at least steps (a) and (c) of amended Claim 1.

McFarland does not cure the deficiencies of Kim. McFarland is relied on for disclosing step (b) "dividing the OFDM symbols that have undergone FFT processing into subchannel groups of the mobile stations." However, McFarland does not teach or suggest using an estimation of relative delay times among the mobile stations for guard interval removal and phase restoration. Thus, Kim in view of McFarland does not teach or suggest each of the elements of amended Claim 1, and its dependent Claims 5 and 6.

Accordingly, reconsideration and withdrawal of the § 103 rejection of Claims 1, 5 and 6 are requested.

B. Claims 1-4 and 6-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Publication No. 2004/0076239 of Yu, et al. ("Yu") in view of McFarland.

Yu discloses a method for tracking residual frequency offset for a single carrier-frequency domain equalizer (SC-FDE) system (Abstract). Yu discloses a CP remover 19 for removing guard intervals. Yu does not disclose that the CP remover 19 uses an estimation of relative delay times among the mobile stations to remove the guard intervals. Further, Yu discloses channel estimation and equalization performed by channel estimator 21 and frequency domain equalization 22 (FIG. 1). Yu does not disclose that these

functional blocks 21, 22 receive or use an estimation of relative delay times among the mobile stations for phase restoration. Thus, Yu does not disclose at least steps (a) and (c) of amended Claim 1.

McFarland does not cure the deficiencies of Yu for similar reasons mentioned above. Thus, Yu in view of McFarland does not teach or suggest each of the elements of amended Claim 1, and its dependent Claims 2-4 and 6.

Analogous discussions apply to independent Claim 7 and its dependent Claim 8, which are amended to include similar limitations.

Accordingly, reconsideration and withdrawal of the § 103 rejection of Claims 1-4 and 6-8 are requested.

CONCLUSION

In view of the foregoing, it is believed that all claims are now in condition for allowance and such action is earnestly solicited at the earliest possible date. If there are any additional fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666.

Respectfully submitted,

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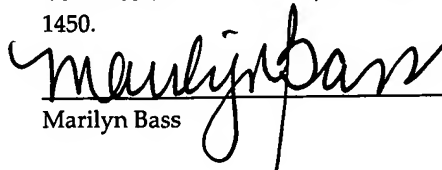
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